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ABSTRACT

This study examined the effects of self-esteem and task perception on goal setting, efficacy, and task performance in 52 recreational dart throwers who were members of two dart organizations. Task perception was manipulated by asking each dart thrower to compete against self, a difficult competitor, and an easy competitor on the same dart game. Subjects were divided into high and low self-esteem groups using a median split. Results of 2 x 3 (self-esteem x task) analyses of variance showed that the efficacy, ability attributions, and task satisfaction of subjects in the low self-esteem group, but not of those in the high self-esteem group, were affected by task perception. These findings support Brockner's (1988) notion that individuals with low self-esteem are more easily influenced by external cues than are individuals with high self-esteem. Subjects in the low self-esteem group had lower goals, efficacy, and task performance than those in the high self-esteem groups. Subjects set high goals and had higher performance in the difficult condition than in the easy condition. (Author/NB)

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The Effects of Self-Esteem and Task Perception on Goal Setting, Efficacy, and Task Performance

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Running head: SELF-ESTEEM

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Abstract

Task perception was manipulated by asking each recreational dart thrower to compete against (1) self, (2) a difficult competitor, and (3) an easy competitor on the same dart game. Subjects were divided into high and low self-esteem (SE) groups using a median split. Results of 2 x 3 (SE x Task) ANOVAs showed that low SEs' efficacy, ability attribution, and task satisfaction were affected by task perception, whereas high SEs' were not. These results support Brockner's (1988) notion that low SEs are more easily influenced by external cues than high SEs. Further, low SEs had lower goals, efficacy, and task performance than high SEs. Subjects set higher goals and had higher performance in the difficult condition than in the easy condition.

The Effects of Self-Esteem and Task Perception on Goal Setting, Efficacy, and Task Performance

For the past several decades, there has been an increasing concern and application of goal setting and efficacy in sports (Browne & Mahoney, 1984; Gould, Hodge, Peterson, & Giannini, 1989; Locke & Latham, 1985). Locke and Latham (1984) stated that "competition is a special form of goal setting in which the performance of some other person serves as the goal" (p. 112).

In competition, some people find it more satisfying to beat another person than to beat an impersonal standard (Locke & Latham, 1984). People with high efficacy will set high goals, persist in the pursuit of those goals, and set even higher goals when the original goals have been met (Bandura, 1986). Goal setting can contribute to athlete's self-concept and the enhancement of self-efficacy (Locke & Latham, 1985).

Tang and Baumeister (1984) stated that a task label may shape the interpretation of a task, but the evaluation of that task depends on both that interpretation and the personal values of the individual. In the present study, task perception was manipulated by asking each recreational dart thrower to compete against self, a difficult competitor, and an easy competitor on an identical task. Individual's self-esteem was also examined.

Self-Esteem

Self-esteem (SE) is "a global evaluation of the self" (Baumeister & Tice, 1985, p. 450; Coopersmith, 1967) or a sense

of worth or value (Landy, 1989), and is based on an assessment of the qualities that count (Rosenberg, 1979). People will develop attitudes and behave in ways that will maintain their level of self-esteem (Korman, 1976).

Brockner (1988) further suggested that low SEs are "more behaviorally 'plastic'" (p. 6) than high SEs. Low SEs' work motivation and performance are more susceptible to influence by external cues than are high SEs.

Self-Esteem and Goal Setting

It has been suggested in the goal setting literature that "self-esteem was one of the most promising individual difference variables" (Locke, Shaw, Saari, & Latham, 1981, p. 125) and that "self-esteem and related measures such as self-efficacy should be studied further" (Locke & Latham, 1990, p. 216). Moreover, aggregating measures of goal setting behaviors across repeated observations on a particular task, and across diverse tasks should be investigated. In the present study, Brockner's (1988) notion of self-esteem was tested across three repeated observations using an identical task.

Difficult vs. Easy

It has been suggested that difficult goals will produce higher performance levels than easy goals, (e.g., Locke & Latham, 1984, 1990; Locke et al., 1981). The more demanding the perceived demand characteristics (PDC) are, the greater amount of

mental effort will be expended (Salomon, 1984; Tang, Tollison, & Whiteside, 1987, 1989).

In the present study, task perception was treated as a within-subjects variable. Based on the suggestions related to low SEs' behavior (Brockner, 1988), efficacy and goal setting (Bandura, 1986), and difficult goal and performance (Locke & Latham, 1990), the following hypotheses were proposed and tested:

Hypothesis 1: High SEs would have higher goals, higher efficacy, and higher task performance than low SEs.

Hypothesis 2: Subjects would have higher goals and higher performance in the difficult condition than in the easy condition.

Hypothesis 3: Low SEs' efficacy and attributions would be affected by task perception, whereas high SEs' would not.

Method

Subjects

Subjects were 52 recreational dart throwers from the middle Tennessee area who were familiar with the game of darts and were members of two dart organizations. They compete in weekly leagues, hold monthly tournaments, and participate in national competitions on the professional dart circuit (American Darts Organization). The average age of subjects was 31.47. They also have an average income of 32,400 with 14.48 years of education.

Further, they have an average of 42.75 months of experience throwing darts.

Experimental Task

Subjects played three identical dart games of 501: against themselves (self), against a difficult competitor (difficult), and against an easy competitor (easy). The object of the dart game 501 is to reduce the score of 501 points to exactly zero.

Each of three darts thrown scores a value on the board. These values are added together at the end of each turn (three darts) and subtracted from the previous score. The last dart of the game, i.e., the dart which causes the score to be reduced to zero, must land in the double ring of the board (two times the value of that segment on the board), thereby, the score prior to the last dart must be even.

Although this game does not require an opponent, two players may take alternating turns while reducing the score of their own game. When one of the two players has reduced their score to zero, this player has won and the game is over. Thus, the level of performance for any game of 501 is defined by the number of darts required to finish the game, i.e., the fewer number of darts, the better the game.

Procedure

A questionnaire that measured self-esteem (SE) (Rosenberg, 1965) was completed by subjects two weeks before the trials. Subjects were divided into high (n = 25) and low SE (n = 27)

groups based on a median split of the SE scores (median = 17). The mean and standard deviation of the SE measure were 18.79 and 7.49, respectively and were compatible to the results of previous research (cf. Tang, Liu, & Vermillion, 1987). The experimenter was unaware of the subjects' SE scores.

The experiment was conducted in a local establishment where regular competitions were held. Subjects played the same 501 game in the self, the difficult, and the easy condition. In the self condition, subjects were instructed to compete against themselves. The major purpose of this condition was to establish the baseline for the subjects in a less threatening condition.

The self condition was the first for all subjects, but the difficult and the easy condition alternated second and third for subjects in order to counterbalance the ordering effect. The difficult competitor was defined as "a dart thrower who is a professional as well as recreational player who will throw the game in no more than 18 darts". The best dart thrower who was the president of one of the two dart organizations (from which the subjects were recruited for the study) served as the difficult competitor in the experiment and performed successfully in the experiment as defined. The easy competitor was defined as "someone who is neither a professional nor recreational player who will not finish the game in 45 darts". A volunteer was recruited for the experiment who served as the easy competitor

and performed as defined. Thus, each subject competed against the self and against two real dart players.

Prior to each game, subjects were instructed to answer a short questionnaire which measured their self-set goal (i.e., the number of darts for the 501 game), efficacy (i.e., certainty in completing the goal from 0% to 100%), and task difficulty (on a 9-point scale with very easy (1), medium (5), and very difficult (9) as anchor points). Subjects then threw the 501 game.

Task performance was measured by the point per dart index (i.e., the number of points scored divided by the number of darts thrown). After each game, each subject had the knowledge of results (KR). Subjects again completed a measure which tapped on their task perception, attributions (ability, effort, task difficulty, and luck), and other items using a 9-point scale. After the final condition, each subject was debriefed and requested not to reveal the nature of the study.

Results

The mean, standard deviation, and correlations of variables are presented in Table 1. The efficacy measures for the self, difficult, and the easy condition are labeled as Efficacy-S, Efficacy-D, and Efficacy-E, respectively (see Table 1). The results of this study were analyzed using 2 x 3 (SE x Task) ANOVAs with the three types of competition as the within-subjects variable.

Manipulation Check

Subjects rated the task in the difficult condition as more difficult (M = 8.14) than they did in the easy condition (M = 3.31) [F (2, 50) = 128.44, p < .001]. Thus, the manipulation of task perception was successful.

Goal Setting

A low score indicates a high level of goal. Self-esteem had a significant impact on self-set goals [F (1, 50) = 6.29, p = .015]. High SEs set higher goals (M = 26.39) than did low SEs (M = 31.17). Hypothesis 1 was supported.

For the identical 501 game, subjects set different goals when they competed against themselves, a difficult competitor, and an easy competitor [F (2, 100) = 12.75, p < .001]. In fact, dart throwers set higher goals when they competed against a difficult competitor (M = 25.77) than when they competed against an easy competitor (M = 31.33). Thus, Hypothesis 2 was supported. When they competed against themselves, they set a moderate level of goal (M = 29.52). Further, the interaction effect was not significant.

Efficacy (Certainty)

High SEs had a higher level of efficacy (M = 81.89) than had low SEs (M = 57.42). The significant difference [F (1, 50) = 19.94, p < .001] supported our Hypothesis 1.

Efficacy under the self (M = 75.65), difficult (M = 54.71) and the easy condition (M = 77.19) were also different [F (2, 100) = 27.14, p < .001]. Further, the interaction effect between

SE and task was significant [F (2, 100) = 8.63, p < .001]. The means of the interaction effect are presented in Table 2.

The results of simple main-effects test showed that low SEs' efficacy differed among the three conditions [F (2, 100) = 34.35, p < .001], whereas high SEs' efficacy did not [F (2, 100) = 2.64, p > .05]. Thus, Hypothesis 3 was supported.

Moreover, when they competed against themselves, and an easy competitor, high SEs had a significantly higher level of efficacy than had low SEs [F (1, 50) = 14.06, p < .001; and F (1, 50) = 4.56, p = .038, respectively]. High SEs in the difficult condition showed a higher level of efficacy than low SEs [F (1, 50) = 24.46, p < .001].

Insert Table 1 and 2 about here

Task Performance

Task performance was calculated based on the points per dart index. Thus, a high score indicates a high level of performance. High SEs had higher task performance (M = 19.06) than had low SEs (M = 16.44). Hypothesis 1 was supported [F (1, 50) = 4.56, p = .038].

Further, subjects in the difficult condition scored higher (M = 19.79) than they did in the easy condition (M = 16.57) and the self condition (M = 16.75) [F (2, 100) = 59.78, p < .001]. This significant result was also predicted by our Hypothesis 2.

However, the interaction effect was not significant.

Attribution

Ability. The main effects of self-esteem and task on ability attribution failed to reach significance. However, the interaction effect was significant [F (2, 100) = 5.37, p = .006]. The means of the interaction effect are presented in Table 3.

Again, high SEs did not change their ability attributions when they competed against themselves, a difficult competitor, and an easy competitor [F (2, 100) = 2.01, p = .138], whereas low SEs did [F (2, 100) = 3.96, p = .022]. Thus, Hypothesis 3 was again supported.

Under the difficult condition, high SEs felt that they had more ability than did low SEs [F (1, 50) = 4.72, p = .035] supporting Bandura's (1987) proposition. Under the self and the easy condition, high SEs did not differ from low SEs on their ability attribution.

Task Difficulty. High SEs did not differ from low SEs concerning the attribution on task difficulty. The main effect of task perception reached significance [F (2, 100) = 128.44, p < .001). The subjects felt that the task was more difficult in the difficult condition (M = 8.13) than in the easy condition (M = 3.31). In the self condition, they made a moderate attribution on task difficulty (M = 5.21). The interaction effect was not significant.

Effort. High SEs claimed that they had exerted more effort in performing the task (M = 6.67) than did low SEs (M = 5.73) and the difference was significant [F (1, 50) = 6.87, p = .012]. In the difficult condition, people rated high on the amount of effort exerted (M = 6.94). In the easy and the self condition, the subjects gave lower ratings on effort (M = 5.73, and 5.87, respectively). The main effect of task reached significance [F (2, 100) = 15.90, p < .001]. The interaction effect failed to reach significance.

Luck. No significant effects were found. Thus, subjects' attribution on luck was not affected by these factors.

Task Satisfaction. A low score represents a high level of satisfaction. The main effect of self-esteem was significant [F (1, 50) = 9.40, p = .003]. Thus, high SEs were more satisfied with their performance (M = 3.75) than were low SEs (M = 5.22). The main effect of task was not significant. The interaction effect reached significance [F (2, 100) = 3.30, p = .041]. The means of the interaction effect are presented in Table 4.

Insert Table 3 and 4 about here

Further analyses showed that low SEs' task satisfaction ratings were different under the three task conditions [F (2, 100) = 5.58, p = .005], whereas high SEs' were not [F (2, 100) = .93, p = .398]. Again, Hypothesis 3 was supported.

In the difficult condition, high SEs were more pleased with their performance than were low SEs [F (1, 50) = 19.63, p < .001]. Under the self and easy condition, the differences between high and low SEs' satisfaction were not significant.

Correlation Data

The results of Table 1 showed that SE was significantly correlated with age, income, and also correlated with efficacy, ability, effort (in all three conditions). Self-esteem was also significantly associated with task performance in both the difficult and easy condition.

Discussion

An identical task was used in all three experimental conditions in the present study. The only difference was the perception of the task. The recreational dart throwers practice the dart games regularly, participate in weekly leagues and competitions, have several years of experience, and have demonstrated a given level of proficiency. Thus, the dart games of 501 may be considered as a very well learned task and the difficult competitor may be considered as a "challenge" rather than a threat by the subjects.

Subjects were competing against someone, with the assumption being that (in at least the difficult competitor condition) the competitor will perform well, thus, only with a higher goal will the subject succeed. Thus, the situation is similar to real competitions in sports. It appears that perceived challenge or

perceived demand characteristic (PDC) (due to real competitors in the game) may lead to a high level of arousal which may cause the subjects to invest a high level of mental effort (Salomon, 1984) and to prepare themselves psychologically and mentally before the start of the actual activity (i.e., mental readiness and positive expectation) in the form of self-set goals and efficacy. Our data showed that difficult goals will produce higher performance levels than easy goals which supported the goal setting literature in industry (cf. Locke & Latham, 1990; Locke et al., 1981) and in sports (cf. Locke & latham, 1985).

High SEs not only have higher self-efficacy than low SEs, but they also set high goals and have higher performance than low SEs. Thus, high SEs, with proper experience and skills related to the target task, try to cultivate talents and maximize successes in order to excel (cf. Baumeister & Tice, 1985). High SEs may also have positive attitudes and strong beliefs that they have "what it takes" to achieve their goal (cf. Bandura, 1986, Landy, 1989). Tang, Liu, and Vermillion (1987) suggested that this is probably caused by the fact that high SEs emphasize their abilities, strengths, and good qualities (Baumeister & Tice, 1985) and think that they are very good (Rosenberg, 1965).

The three significant interaction effects between self-esteem and task on efficacy, ability attribution, and task satisfaction show that high SEs have strong beliefs concerning their qualities, therefore, they are not easily affected by

external cues or factors. Their ratings are positive and stable regardless of the task perception. However, low SEs are more behaviorally plastic than their high SE counterparts (cf., Brockner, 1988). Low SEs' ratings are affected by task perception. In the difficult condition, high SEs have higher ratings on all these three variables than low SEs. The results of the present study further extended the proposition provided by Brockner (1988) and Bandura (1986). Finally, the experiment reported in the present paper supports the notion that the subjects' self-esteem and task perception have played a very important role in their behavior in the study (cf. Tang, 1986; Tang & Baumeister, 1984).

In our society, we all want to be winners and have positive self-esteem. Therefore, help employees build up their self-esteem or organization-based self-esteem (e.g., Pierce, Gardner, Cummings, & Dunham, 1989) would be an important task for managers. More extensive research in this area is definitely needed.

Based on Bandura's (1986) proposition of efficacy and the results of this research, the present authors suggest that in order to reach a high level of success, people need to (1) have a high level of self-esteem (i.e., believe that they have the necessary ability and skill to achieve a goal) and set a difficult and challenging goal, and (2) exert effort (with given

ability) and have a high level of performance on the task. Thus, self-esteem and effort are the two key ingredients for success.

It takes a high level of confidence in yourself, i.e., self-esteem, to persevere and succeed. It also takes a lot of effort and hard work to build and rejuvenate the self-esteem. One can not have just one without the other. This proposition should be tested by future research directly.

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Table 1

Mean, Standard Deviation, and Correlations of Variable

Variable	M	SD	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Age	31.47	7.99	-15	68***	20	58***	-28*	-54***	25*	54***	28*	31*	25*	-27*	-27*	-45***	36**	45***
2. Sex (Male=1, Female=0)				-01	-38**	08	10	07	01	22	01	10	-02	06	-18	-03	-09	20
3. Income (1,000)	32.40	17.06			29*	34**	-49***	-52***	27*	31*	28*	43***	29*	-26*	-26*	-38**	41**	38**
4. Education	14.48	2.69				00	-06	-23	13	-04	11	30*	32**	01	-19	-26*	07	-05
5. Experience (Mo.)	42.75	32.78					-06	-46***	34**	79***	49***	27*	15	-35**	-47***	-44***	28*	68***
6. Self-Esteem	18.79	7.49						37**	-50***	-20	-32**	-31*	-43***	25*	-01	20	-75***	-33**
7. Goal-Self	29.52	7.27							-41***	-65***	-44***	-32**	-32**	64***	14	52***	-57***	-61***
8. Efficacy-S	75.65	20.96								45***	57***	25*	46***	-43***	-38**	-32*	63***	43***
9. Performance-S	16.75	4.79									63***	17	27*	-53***	-54***	-57***	39**	88***
10. Ability-S	5.62	1.69										23	43***	-48***	-53***	-49***	36**	63***
11. Task-S	5.21	1.45											28*	-01	-10	-21	24*	15
12. Effort-S	5.87	1.69												-19	-39**	-12	45***	26
13. Luck-S	2.63	2.03													16	29*	-35**	-58***
14. Satisfaction-S	3.83	2.50														39**	01	-50***
15. Goal-Difficult	25.77	9.20															-23*	-51***
16. Efficacy-D	54.71	35.34																43***
17. Performance-D	19.79	4.70																

(Table Continues)

Table 1

Variable	M	SD	18	19	20	21	22	23	24	25	26	27	28	29	30
1. Age			23	-09	06	-44***	-14	-42***	31*	58***	30*	-27*	00	-19	-27*
2. Sex			05	10	-01	13	07	10	02	14	06	12	-15	10	05
3. Income			28*	12	39**	-29*	-42***	-38**	32*	45***	22	-10	18	-17	-26*
4. Education			02	21	14	-01	-10	-09	13	-01	08	-04	04	-11	-17
5. Experience			41***	19	06	-40**	-22	-43***	45***	71***	55***	-42***	09	-36**	-39**
6. Self-Esteem			-50***	15	-63***	28*	65***	52***	-27*	-27*	-11	-15	-26*	20	-02
7. Goal-Self			-43***	11	-25*	62***	36**	65***	-48***	-60***	-45***	30*	-25*	51***	19
8. Efficacy-S			50***	-04	36**	-17	-43***	-35**	78***	40**	50***	-24*	07	-39**	-33**
9. Performance-S			58***	06	17	-50***	-29*	-59***	58***	88***	61***	-46***	04	-54***	-36**
10. Ability-S			82***	06	34**	-24*	-36**	-51***	68***	50***	84***	-31*	-06	-62***	-32**
11. Task-S			21	23	20	-01	28*	-20	09	18	29*	31*	16	01	-07
12. Effort-S			40**	05	66***	-15	-43***	-26*	31*	27*	36**	-11	33*	-31*	-05
13. Luck-S			-40***	24*	-17	53***	35**	42***	-58***	-47***	-48***	48***	-03	70***	34**
14. Satisfaction-S			-27*	-35**	-21	01	11	05	-42	-50***	-53***	48***	08	36**	57***
15. Goal-Difficult			-30*	-22	-08	38**	03	55***	-41***	-53***	-41***	24*	17	39**	40**
16. Efficacy-D			52***	-31*	47***	-43***	-61***	-64***	48***	35**	23	-03	40**	-32**	19
17. Performance-D			60***	19	28*	-47***	-36**	-55***	57***	87***	59***	-44***	08	-57***	-44***

(Table Continues)

Table 1

Variable	M	SD	19	20	21	22	23	24	25	26	27	28	29	30
18. Ability-D	5.46	1.91	-02	49***	-33**	-55***	-59***	56***	49***	79***	-10	17	-52***	-07
19. Task-D	8.13	1.28		18	19	06	20	-02	21	13	-13	-02	13	-38**
20. Effort-D	6.94	1.70			-07	-56***	-25*	19	25*	26*	-02	45***	-16	02
21. Luck-D	2.83	2.03				28*	60***	-31*	-48***	-24*	30*	-24*	52***	10
22. Satisfaction-D	4.93	2.71					40**	-33**	-24*	-27*	-03	-26*	40**	-07
23. Goal-Easy	31.33	9.10						-38**	-56***	-39**	13	-16	54***	-02
24. Efficacy-E	77.19	24.10							50***	60***	-48***	-13	-61***	-37**
25. Performance-E	16.57	4.84								52***	-43***	15	-47***	-49***
26. Ability-E	5.60	1.83									-38**	07	-56***	-40**
27. Task-E	3.31	2.12										15	49***	41***
28. Effort-E	5.73	1.66											08	13
29. Luck-E	2.46	2.04												28*
30. Satisfaction-E	4.79	2.99												

Note. N = 52. All decimals have been omitted for correlations. *p < .05, **p < .01, ***p < .001.

Table 2

Effects of Self-Esteem and Task on Self-Efficacy

	Task		
Self-Esteem	Self	Difficult	Easy
High	85.76[a]	75.56[a]	84.36[a]
Low	66.30[bcd]	35.41[c]	70.56[d]

Note. For high SEs, $n = 25$, for low SEs, $n = 27$.
Means not sharing a common superscript are significantly different from each other.

Table 3

Effects of Self-Esteem and Task on Ability Attribution

	Task		
Self-Esteem	Self	Difficulty	Easy
High	6.08^{ac}	6.04^{a}	5.68^{ad}
Low	5.16^{c}	4.93^{b}	5.52^{cd}

Note. For high SEs, $n = 25$, for low SEs, $n = 27$.

A high score indicates a high level of ability.

Means not sharing a common superscript are significantly different from each other.

Table 4

Effects of Self-Esteem and Task on Task Satisfaction

	Task		
Self-Esteem	Self	Difficult	Easy
High	3.52^{ac}	3.44^{a}	4.28^{ad}
Low	4.11^{c}	6.30^{b}	5.26^{bd}

Note. For high SEs, n = 25, for low SEs, n = 27.

A low score indicates a high level of satisfaction.

Means not sharing a common superscript are significantly different from each other.